

Description MDOT Technical Training Courses

BRIDGE CONSTRUCTION/REHABILITATION INSPECTION & BRIDGE PAINT **(Certification- 5 Years)**

The Bridge Deck Construction Inspection portion of this course is intended to educate field staff on the proper inspection techniques and best practices associated with bridge deck construction. Topics include: Overview of Structures and Terminology, Inspection Forms, BOHIM's and Construction Advisories, Construction Manual, Section 706 of Standard Specifications, Pour Sequencing, Haunch Grades, Beam Erection and Reinforcing Steel, Concrete Pours and Cure Requirements, Common Mistakes and Troubleshooting. The Bridge Construction/Rehabilitation Construction portion of this course educates field staff on major aspects of bridge construction and rehabilitation. It is intended to improve comprehension of basic terminology, best practices, and interpretation of MDOT's Standard Specifications related to bridge rehabilitation. Topics include: Bridge Scoping, Standard Specifications, Foundation and Substructure best practices, Construction Advisories and BOHIM's, Substructure Patching, Beam Repair (Concrete, Steel, Pin and Hanger), Deck Patching, Deep and Shallow Overlays, Epoxy Overlays, Expansion Joints, Deck Removal, Pressure Relief Joints, Pour Sequences and Setting Haunch Grades.

The Bridge Paint portion of the course is designed to prepare attendees for the inspection of bridge painting projects. It covers corrosion, paint systems, paint equipment, surface preparation, field cleaning and coating, inspection procedures and equipment, documentation and reports, environmental regulations concerning removal of lead paint, and specifications for bridge cleaning and coating.

CONCRETE PAVING INSPECTION (Certificate of Attendance)

This course is designed to give technicians and engineers the competency to provide quality inspection for concrete pavement at the job site. This course covers Paving, Pavement Rehabilitation, Environmental Protection, MDOT Standard Plans, and Specifications.

DENSITY TRAINING (Certification)

This four-day is designed for technicians and their supervisors who have responsibility for the density control on soil subgrade and aggregate bases. This introduces the theory of compaction on various materials, and provides training using MDOT density control tests, procedures and documentation.

The technician training is a three-day followed by the certification test on the fourth day. This is designed to give candidates the skills and knowledge necessary to pass the Density Control Technician Test. The is composed of both classroom and laboratory instruction. Students can expect homework assignments.

Course Topics include:

- Location of random test site
- MDOT Specifications concerning current Density requirements
- Relevant MTM's and ASTM's such as Speedy, Troxler 34XX, Michigan Cone Test, One PointT-99 Test, and Michigan Modified T-180 Test
- Documentation requirements

Link to the MDOT-FSU Course Description: <https://www.ferris.edu/CET/built-env/icet/index.htm>

DESIGN AND INSTALLATION OF STRUCTURAL ADHESIVE ANCHOR TRAINING **(Certificate of Attendance)**

This will be a four (4) hour course which will cover two main aspects of structural adhesive anchoring. The first half of this course will focus on basic design theory and principles when considering use of and designing structural adhesive anchors. In the second half of the course, we will then discuss the aspects of using this type of concrete connection in the field, including a review of processes that are required prior to and during the installation of these anchors, as well as things to look for and consider during inspection.

GEOTECHNICAL CONSTRUCTION INSPECTION (Certificate of Attendance)

This two-day course is designed to provide inspectors with practical knowledge and standard industry practices for the inspection of geotechnical construction, such as:

- Deep foundations, including Drilled Shaft, Piling, and Micropiles;
- Retained Earth, includes Part Width Construction, Cofferdams, MSE Walls, and Soldier Pile Walls
- Light Weight Fills
- Counterscour Measures

The target audience for this course includes engineers and technicians who will be responsible for inspecting geotechnical projects during construction.

HOT MIX ASPHALT PAVING (HMA) OPERATIONS (Certification - 5 Years)

This four-day course is designed to provide a basic and uniform understanding of the inspection and evaluation of HMA Paving Operations. Attention is given to providing participants with an introduction to the basic principles of pavement construction and quality control. Information will be provided to help ensure a better riding surface and a reduction in maintenance costs.

WHO SHOULD ATTEND

The course is open to individuals from both the private and public sectors who perform regular inspections and evaluations of bituminous paving, and for those who expect to become street inspectors in the bituminous paving industry.

APPLICATION REQUIREMENTS

Basic math skills in the use of fractions, decimals, ratios, and percentages are required.

EXAMINATION

A written examination will be given the last day of class to evaluate the level of learning achieved by the participant.

This is designed to give candidates the skills and knowledge necessary to inspect a HMA Paving Operation in the field. Topics include:

- Paving equipment
- Base preparation
- Traffic control
- Paving operations
- Rolling operations
- Surface treatments
- Special bituminous
- Construction field testing

Link to the MDOT-FSU Course Description: [Ferris Construction Institute - School of Built Environment - College of Engineering Technology](#)

HOT MIX ASPHALT PAVING OPERATIONS–RECERTIFICATON (Certification - 5 Years)

Anyone that has previously completed the HMA Paving Operations will be allowed to register and complete the HMA Paving Operations recertification training.

MDOT HMA (Bituminous) Paving or Michigan HMA (Bituminous) Paving Operations certification is a requirement for the prequalification category of **Construction Inspection: HMA Pavement**. No extensions will be allowed beyond the certification dates noted.

Link to the MDOT-FSU Course Description: [Ferris Construction Institute - School of Built Environment - College of Engineering Technology](#)

PAVEMENT HISTORICAL DATABASE (PHD) [Consultant Only] (Certificate of Attendance)

Pavement Historical Database (PHD) is a MiLogin application used to collect and store pavement “As Built” typical section information and materials data on Michigan’s state-owned roads. This training session is designed for Data Entry users and will provide an overview of data entry role and responsibilities, an overview of the software, and contains step-by-step instructions for data entry. This course will also feature a live demonstration of project data entry. (Note: This course is open to consultants at no cost).

PREVAILING WAGE TRAINING (Certificate of Attendance)

This course is intended to enhance knowledge of the current Prevailing Wage Procedures by reviewing wage decisions, wage rate interviews, and certified payrolls. This includes prevailing wage components, contract documentation, wage decisions, wage rate interviews, overtime, certified payroll, and truck drivers. (Note: This course is open to consultants and contractors at no cost).

STRUCTURAL STEEL BOLTING WORKSHOP (Certificate of Attendance)

This course is designed to cover basic definitions and concepts, materials and specifications, and procedures for bolted connections in structural steel and anchor bolt connections. The course covers general considerations for bolting, installation preparation, installation techniques, inspection procedures, and test methods. The intent of the course is to assist engineers and technicians to design, install, and inspect bolted connections to meet current specifications.

STRUCTURAL STEEL WELDING WORKSHOP (Certificate of Attendance)

This course is designed to cover basic definitions and concepts, materials and specifications, and procedures for welded connections in structural steel. The course is broken into the following sessions: introduction to welding, welded connections, general weld-related issues, welding practices and inspection, and two welding demonstrations. The intent of the course is to assist engineers and technicians to design, install, and inspect welded connections to meet current specifications.

SUPERPAVE ASPHALT MIX DESIGNERS CERTIFICATION TRAINING (Certificate of Attendance)

This certification training includes superpave defined, aggregate and asphalt issues, mixture selection, volumetric requirements, specification review thru-out, submittal process, asphalt plant particulars, successful initial production lot (IPL), and percent within limits (PWL). Attendees must pass an exam at the end of the course to receive a certificate.